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Research Interests

Diet-induced weight loss is recommended as the first step in treating obese patients with type 2 diabetes mellitus (T2DM). Recently, very low-carbohydrate, high-protein/fat (LC-HP/F) diets have gained increasing popularity as a diet therapy for obesity. However, little is known about the metabolic and cardiovascular effects of this diet in patients with T2DM. The major aim of the current proposal is to conduct a randomized, controlled trial to assess the effects of weight reduction with an LC-HP/F diet compared with a high-carbohydrate, low-fat diet on cardiovascular function and coronary heart disease risk factors.

Ghrelin, a recently discovered peptide hormone, increases appetite and influences both energy balance and the secretion and motility of the gastrointestinal tract, especially the stomach. Plasma ghrelin concentrations increase with fasting and decrease after eating. There also is evidence that increased dietary fat intake causes a greater postmeal decrease in ghrelin than normal dietary fat intake. However, little is known about the plasma ghrelin response to the consumption of carbohydrate, fat, or protein individually or about how this may vary in obesity with glucose disposal and in measures of insulin sensitivity and production. The major aim of the current proposal is to conduct a cross-sectional study in the lean and obese to assess the acute effects of the varied calorie content of the three macronutrients, fiber, and water, with a standardized volume of oral challenges, on active plasma ghrelin concentration.

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